

USSN 09/226,418

October 22, 2002

Page 2

Please cancel claims 2-6 and 14-19, without prejudice.

Please amend the claims to read as follows:

*Sub B1*  
1. (Amended) An active control device for improving air flow characteristics in a vicinity of an airfoil, the airfoil having an outer aerodynamic surface and an interior volume, the airfoil having a chord of predetermined length, the aerodynamic surface comprising a leading edge and a trailing edge, the active control device comprising:

a plurality of apertures disposed on the outer aerodynamic surface, said plurality of apertures communicating the outer aerodynamic surface to the interior volume;

a chamber disposed within the interior volume, said chamber defining a volume in fluid communication with said apertures;

*a<sup>2</sup>*  
a plurality of diaphragms defining a wall of said chamber, said plurality of diaphragms each being movable between a first position and a second position, wherein movement of each of said diaphragms from said first position to said second position pushes air present in the interior volume through said plurality of apertures and out of the interior volume, and wherein movement of each of said diaphragms from said second position to said first position draws air through said plurality of apertures and into the interior volume; and

a controller operatively coupled to said plurality of diaphragms, said controller controlling movement of said plurality of diaphragms;

wherein a total number of said plurality of apertures corresponds to a total number of said plurality of diaphragms, and each of said plurality of diaphragms pushes and draws air through a corresponding one of said plurality of apertures.

*a<sup>3</sup>*  
7. (Amended) An active control device in accordance with claim 1, comprising:

first and second sensors operatively coupled to said controller, said first and second sensors disposed on the aerodynamic surface, said first and second sensors measuring a flow characteristic of air proximal to said first and second sensors.

*a<sup>4</sup>*  
11. (Amended) An active control device in accordance with claim 1, wherein:

said plurality of apertures is disposed on the outer aerodynamic surface proximal the trailing edge.

12. (Amended) An active control device for improving air flow characteristics in a vicinity of an airfoil, the airfoil having an outer aerodynamic surface and an interior volume, the

USSN 09/226,418

October 22, 2002

Page 3

airfoil having a chord of predetermined length, the aerodynamic surface comprising a leading edge and a trailing edge, the active control device comprising:

at least one aperture disposed on the outer aerodynamic surface, said at least one aperture communicating the outer aerodynamic surface to the interior volume;

a chamber disposed within the interior volume, said chamber defining a volume in fluid communication with said aperture; and

at least one diaphragm defining a wall of said chamber, said at least one diaphragm being movable between a first position and a second position, wherein movement of said at least one diaphragm from said first position to said second position pushes air present in the interior volume through said at least one aperture and out of the interior volume, and wherein movement of said at least one diaphragm from said second position to said first position draws air through said at least one aperture and into the interior volume;

wherein said at least one aperture is disposed along the aerodynamic surface a distance of less than 8 percent of the chord length from the trailing edge.

A  
cont

#### REMARKS

The specification has been amended to address the issue raised by the Examiner, claims 1, 7, 11, and 12 have been amended, and claims 2-6 and 14-19 have been canceled. Thus, claims 1, 7-13, and 20-22 remain pending. Reexamination and reconsideration of the rejections of record is respectfully requested in view of the foregoing amendments and accompanying remarks.

The objection to the declaration is noted. A new declaration will be executed and submitted as soon as possible, referencing the applications upon which priority is claimed.

The objections to the specification have been overcome by the foregoing amendment.

The objections to claims 14-19, as well as the rejection of claim 19 under 35 U.S.C. 112, second paragraph, are moot since those claims have now been canceled.

The rejection of claims 1-2, 11, and 14-16 under 35 U.S.C. 102(b) as being anticipated by the Soviet Union Patent '973 is moot, since claims 2 and 14-16 have been canceled, and claim 1 has been amended to include the limitations of canceled claims 2-6. Claim 11 depends from claim 1.

The rejection of claims 14 and 17-18 under 35 U.S.C. 102(e) as being anticipated by Hassan '625 is also moot, since these claims have all been canceled.

Claims 1-3, 14-15, and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by O'Neil. This rejection is moot, as well, since claims 14-15 and 17-19 have been canceled, and